



HOW FAR GUARDIANS PLAN EDUCATION

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By

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CALCUTTA UNIVERSITY

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PREFACE

Shortly after he had assumed the office of Vice-Chancellor, Dr. Subodh Mitra discussed with me the problem of failure of students in the public examinations after study at college, and their failure to secure admission to professional colleges, especially the engineering colleges. It appeared likely that apart from overcrowding in some of the big colleges, there were serious weaknesses elsewhere. As a result of this discussion, Dr. Mitra requested Prof. K. P. Chattopadhyay and Dr. P. K. Bose who had carried out in 1954, a survey of how undergraduate students live in Calcutta, to undertake a fresh survey of how guardians plan education and the factors in planning that lead to future difficulties in higher education. The draft plan of work as drawn up by Prof. K. P. Chattopadhyay and Dr. P. K. Bose was discussed in detail with Dr. Mitra and work commenced in December, 1959. The report with tables, was presented to Dr. Mitra in May, 1960, and some minor changes made later on after recasting a few tables for greater clarity. One of the authors Prof. K. P. Chattopadhyay has also drawn upon his earlier experience as an educationist in supplementing a point not covered by the survey.

It is evident that proper planning of courses to study, keeping in view future jobs or lines of work desired are not done in a large majority of cases. Negligence of studies by students is also an important factor in coming ill-equipped to the University and doing badly there. Staffing of secondary schools whence the boys come to the University is apparently not so adequate as it should be, especially for the science teaching introduced recently. Unless economic security is guaranteed to a teacher after three decades of approved service, neither the schools nor even colleges are



likely to get the best of science students at least to come to their staff. The very low predilection among science students to serve as teachers and the very moderate degree of such wish among Arts students now entering the colleges suggest that unless the State intervenes in definitely improving the lot of all teachers we are not likely to get the same type of devoted teachers and research workers for which our people had been noted in the past.

DARBHANGA BUILDING

Dated the 10th January, 1962

Vice-Chancellor (Acting).



How Far Guardians Plan Education

A nation can go ahead only if it can increase its cultural and economic assets and prevent wastage. This can be secured by proper planning in all respects. In the field of education, such planning has to be carried out to ensure that the national requirements in different lines of development are adequately met. For this end, the State has to plan and notify availability of requirements, the University and similar educational bodies have to provide amenities for training such men (and women) and the citizens of the State have to co-operate by falling in with such plans.

Some information is available regarding likely requirements of technicians, teachers and others in the different plan periods. The amenities available for training are also fairly well-known. Practically nothing is however known as to how far the parents and guardians of students plan the education of their wards. In order to ascertain the necessary information in these regards, so that wastage may be prevented, the late Vice-Chancellor Dr. Subodh Mitra suggested that a survey be carried out among entrants to our University.

On a previous occasion in 1954 a survey¹ was conducted by the Department of Anthropology in collaboration with the Department of Statistics to ascertain how Undergraduate Students live and work in Calcutta. The sample was on that occasion taken from first as well as third year students of the Calcutta Colleges. The second and fourth

¹ Undergraduate students in Calcutta, How they live and work. A survey by Prof. K. P. Chattopadhyay, Dr. P. K. Bose and Sri A. Chatterjee, Calcutta University 1954.



year students being examinees were not included. The objective this time is different ; it has to be ascertained how far the students have, in their schools, before coming to college selected their courses of study, keeping in view their future aims in life, and also how far their choice of subjects in college fit in with such objectives. On the present occasion, third year students were therefore excluded, as the courses of study to be followed are fixed, more or less by the subjects selected in the earlier years.

It had been intended to study a fairly large sample from among the Pre-University boys and those in the first year of the Three-Year Degree Course. Actually a ten per cent. sample was taken and some preliminary data available in the college records were noted in the schedules. Out of a total random sample of 885 (Table 1) it was found necessary to reject 58 at the outset as the necessary information was not available in the college records. As the object of the survey was to collect information regarding the extent of planning of education or otherwise of men students by their guardians it was necessary to contact the guardians. A fair number of such guardians live away from Calcutta, and it was not possible to proceed to distant areas, owing to the limited funds available. Hence the survey had to be limited to students whose guardians live in Calcutta, Howrah and Belgharia. In consequence a further number of 158 were excluded from the sample. The remaining 669 students being three-fourths of the original sample were sought to be surveyed. It is noted with regret that in the course of the survey another 139 students had to be left out for reasons noted in Table 2 in the Appendix. The final sample of filled in forms was of 530 students. This is about five per cent of the total population of students sampled and is of satisfactory size. In the earlier survey the final sample studied was a slightly smaller frac-



tion of the total population surveyed. Of the 530 students surveyed, 340 being 64.2% of the total had joined the Science course and 190 being 35.8% of the total had joined the Arts Course (Table 3).

The economic condition of the families who send their sons to colleges is of importance in assessing their ability to stand the expenses of higher education for their wards. The figures are given separately for the different courses in Table 5(a) in the Appendix. Table 5(b) gives the per capita income for students with different mother tongues. It is found that as many as 26.7 per cent of Bengali students come from families with a per capita income of Rs. 30/- or less ; another 30.8 and 18.5 per cent come from income groups of above Rs. 30/- but not exceeding Rs. 50/- and of above Rs. 50/- but not exceeding Rs. 75/- per capita respectively. Only 9.1 per cent have per capita income of over Rs. 75/- but not exceeding Rs. 100/- per month. But 15.0 per cent have incomes over Rs. 100/- per capita per month (Table 5b). The figures suggest an improvement in the economic position of the guardians of students since 1954, probably due to partial rehabilitation of people from East Bengal. A small percentage of guardians, it may be noted, did not submit returns of income.

As the average cost of living for a family in Calcutta comes to a minimum of about Rs. 40/- per month per capita for food, fuel, rental, and other essential items², it will be apparent that only by deprivation of many essential requirements, can a family with an income level below Rs. 30/- per capita, send a boy to college. The institution of stipends by the State to needy and meritorious boys and award of concession (full or half) in fees by Colleges has

² A Socio-Economic Survey of Jute Labour by K. P. Chattopadhyay, Calcutta University, 1952. The actual figure on the basis of the minimum required was Rs. 42/3 as (see p 66 of the monograph).



been of great help in these cases. It may also be noted that the level of family income does not take into account such indirect help to the student as residence rent free and sometimes also with free board in the house of a relative. While a considerable proportion of boys in the lowest income group (15%) receive some help from sources other than the income of guardians, the proportion of such cases in the next income group (Rs. 30/- + to Rs. 50/-) is 5.5 per cent) and this is also the case (only 5.4 per cent) for the higher income level of Rs. 50/- + to Rs. 75/- per capita. In the income level above Rs. 75/- but below Rs. 100/- per capita there are only 2 per cent of such boys. In the still higher income level, there are no boys in this category (Table 7), although a scholarship enjoyed may be stretched to be included in the category of extra help. In view of the details stated it is quite natural to find 12.9 per cent of students coming from the income group of Rs. 30/- or less per capita working and earning something to meet their expenses. The proportion of such boys in the next group of Rs. 30/- + to Rs. 50/- is only 4.8 per cent. There are none in the higher income groups (Table 8). A few boys however work in their father's business, not for pecuniary help in education but presumably for training to enter the father's business later on.

In this connection it may be noted that a little under one-third (30%) of the boys in the income groups of upto Rs. 50/- per month enjoyed concession in fees at school, whereas only one-tenth (9.8%) in the next two income groups combined, of Rs. 50/- + to Rs. 100/- had the same privilege. At school, the highest group had none in this category as boys generally stay with their parents and guardians at this age and hence do not come in the class of those staying with relatives who are in better circumstances and need help. At college, the boys from income group



of Rs. 50/- per capita or less had 7.6 per cent in enjoyment of concession while in the next combined group of income of Rs. 50/- + to Rs. 100/- per capita barely one per cent secured such help (Table 9). The colleges, it appears incidentally from these figures, extended such help as they can to those genuinely in need.

Reference has been made earlier to the traditional practice in our country in the class under survey to give the best of what is available to the children. Even so, where means do not permit giving of adequate nourishing food to children, some deterioration of health is inevitable. It may be further noted that outwardly the boy may be in good health, where a medical check-up would reveal defects. The opinions expressed by guardians show that the proportion of boys in good health is less than half (45.5%) in the income level of Rs. 50/- or less per capita and that it rises to 57% and 66.3% in the levels Rs. 50/- + to Rs. 100 per capita and Rs. 100 / - + and above respectively (Table 10). Participation in outdoor games requires some expense. Here also we find greater participation of the boys in the better off income levels in such activities (Table 11).

Estimates of guardians showed a serious inability to appreciate the relation between good health and capacity for strenuous work. Although only 52.2% of all boys are reported by them to be in good health as many as 82% are stated to be capable of strenuous work. Since 12.9% of the boys were stated to be sickly, it seems that almost everyone, except such sickly boys, whether enjoying good health or in mediocre health is considered capable of hard work (Table 12).

The social class from which the bulk of the students has come does not seem to have changed in composition since 1954, when a survey was carried out by the writers of this report on the Undergraduate students



in Calcutta.¹ Of first year students in 1954 as many as 55.9% came from families of which the head was in "Service" as against this being the occupation now of 53.9% of the father of the student. The professions of Law, Medicine, Engineering and Teaching, these contributed 15.6% of students as against 13.2% now. Agriculturists had 2.7% of their wards at college (in the first year) then, as against a little over 2.6% now (Table 13a). The actual proportion of Bengali businessmen among guardians of Bengali boys is 21.6% and the figure has been inflated for the sample as a whole to 29.1% by the inclusion of 8.9% of guardians of Hindi speaking boys and of 4.5% of students speaking other languages in the sample. As many as 43.7% of the fathers of non-Bengali students are engaged in business (Table 13.b). In the earlier survey 5.5% of guardians are shown under the head "Miscellaneous" in the tables. Some of these are petty shopkeepers who were not shown under "business" although they should have been so included. The slight changes in the composition of occupation of the fathers of the boys is practically negligible. As before, we have to note that higher education in the city and suburbs is almost entirely confined to the middle class in the sense of those who do not follow occupations mainly involving manual work. This last reservation is made, as "middle class" in English refers to persons of a definite economic and social class. Our "middle class" here lacks the income of such a group in a good section of it.

Regarding future choice of professions, the students who have taken up Arts subjects in the colleges show, irrespective of income levels of their families, and results at the public examinations, a great preference for posts in the

¹ Undergraduate students in Calcutta : How they live and work. (*ibid.*) A Survey by K. P. Chattopadhyay, Dr. P. K. Bose and Sri A. Chatterji Calcutta University 1954.



higher administrative and allied services, commissioned ranks in the armed forces and also for a well-paid profession like that of qualified accountants and auditors (Table 14). In the income group of Rs. 50/- per capita and less as many as 30% of guardians indicated this preference. Another 29%, however, noted modestly future jobs of clerks as their objective while 6% mentioned any service available. Teaching found favour with 16% and Law with 6% only. In this income group the lack of capital precluded business as a future occupation except for 5% of the boys. In the next higher income group of Rs. 50/- + to Rs. 100/- the emphasis was definitely in favour of "higher services" etc. as detailed above, the proportion being 42.2% of the total in this group. Jobs of office assistants and of teachers were less in favour here and there was no question of being satisfied with any service. In the top income group of Rs. 100/- + and above per capita, the preponderant future choice was "business", for 53.6% of boys and next came "higher service" with about 30% opting for these. A curious feature of the selection of future objective of occupations is the fact that the guardians of a very large proportion (as many as 30%) of those who got through the public examination in the third division or by way of the compartmental examination (Table 15), expected them to enter "higher services" in future. A much smaller number of such boys, being 21.5% of the total aimed at job of clerks while another 3.7% were prepared to accept any kind of employment. Teaching was not much in favour, being mentioned only by 11.9% of guardians. Business was preferred by a larger proportion, of 16.3% of boys. For the first and second division boys "Higher service" was stated to be the main objective, in 39 per cent of the answers. Teaching, business, and law were preferred by a little over 10 per cent in each case, the first named occupation receiving a slightly higher preference.



For Science students, the overwhelming majority of guardians stated the Engineering profession to be the future objective of their wards (Table 16). Irrespective of income groups or results in public examinations, guardians of over four-fifths of the students (82.1%) were found aiming at this profession for their wards. "Higher service" received a poor preference here, from less than two per cent of cases. The only other considerable group was that of 7% who aimed to enter the medical profession. Less than 3 per cent were in favour of teaching as a future occupation.

To judge how far planning of education has been properly done, it is of importance to ascertain how far consideration has been paid in selecting the course of studies for the boys keeping in view their future profession. With this object the guardians were asked to express their opinion on this point ; also an attempt was made to assess how far the opinion tallied with the actual selection of the course. For this purpose the optional subjects taken for the School Final and Higher Secondary Examinations were taken into account and also the general record at school (as reported by guardian) and the actual performance at the public examination (or recognised test) in certain subjects.

Of the students who had taken up Arts subjects slightly over 89% of guardians in all the income groups taken together reported that consideration had been given in selection of the present courses of study, keeping in view their future profession (Tables 18 and 19). The rest, a little over 10 per cent replied in the negative. For science students 98% of the guardians replied in the affirmative and only 2% of them fell outside this group. On scrutiny by results at the public examinations before entrance to the University, it appears that for first and second division boys in the Arts courses, who constitute 28.6% of the total, the



guardians paid slightly greater consideration (for 90.6% of cases) and for third division (and compartmental) cases, slightly less (88.6%) ; the difference is negligible for practical purposes in view of its smallness.

While the answers to the query as to whether the courses of study have been selected keeping in view the future intended profession, shows awareness of the need of co-ordination between the two, a different picture is revealed when we consider how far the capability of the student for such courses has also been taken into account. It seems that for all income groups this factor was considered in somewhat less than half the cases (Table 20). The actual comes out as 44.2% and is not appreciably different in the different income levels, taking into account the different size of the samples. The picture is similar if the classification of students is made by results at the public examination.

With regard to the actual course and subjects selected for the Pre-University and Three-year Degree course taken together, it was noted that tabulation by income groups showed 77.8% of students in the Arts course had been able to secure the choice made for studies (Table 21). The corresponding percentage was 92.9% for Science students. The tables for such figures by results at the Public Examinations reveal that first and second division students had much greater success in this respect in both groups (Table 22). For Arts students among first and second division boys taken together as many as 84.6% had been able to arrange for study of subjects selected while among third division (and compartmental) boys it was 75.7% only. For Science students, the figures were 95.9% for first and second divisions, while it was 89.3% for third division students. It may be noted that in the Arts course 71.6% of students came from the third division category but in the Science



course the corresponding figure was 35.6% only. This is the reason for the much smaller difference in admission to selected courses as between third division and higher division boys in the Science course. The students who could not take up the preferred subjects and preferred course owed their inability in the main to poor results in the preceding Public examination and deficiency in particular subjects.

The principal reason given by guardians for selection of an intended profession was, "satisfactory future prospect" (Table 25). This factor was of very great importance (67.5%) in the lowest income group and decreased in importance with increase in per capita income. On the other hand consideration of capabilities of students and likings of students and guardians in such choice increased with increasing per capita income. If the small proportion of those who took into account these factors as also future prospect is considered, a similar change with income is observed. If however such choice is examined in relation to performance of students in public examination, we find a much less sharp contrast between the higher and lower division boys (Table 26). It is evident from the data that the financial condition of the low income group has largely influenced the choice of the intended profession of the ward. The course and subjects were selected for only 44.2% boys, after considering the intended profession and capability for such courses of study; further only 26.6% of boys had their future (intended) profession selected after considering their capabilities alone or along with future prospects. Hence it would seem that in the case of only 26.6% of students, had their guardians taken into account their capabilities in choosing the intended profession and thereafter in selecting the courses of study appropriate as a preparation for it. Fortunately, such selection of courses do not



sharply limit the choice of future professions. Nevertheless the facts reveal of good deal of lack of planning by guardians in all but one fourth of the future University educated population.

Some idea about the assessment of work of their wards by guardians is available from their views about the same (Table 29). In the case of nearly 90 per cent of boys who passed the public examination of the Board of Secondary Education in the first division, guardians expressed themselves to be satisfied with their work. A small proportion was however dissatisfied. For second division boys only 60% of guardians considered their work satisfactory and the rest considered the same as mediocre or unsatisfactory in about equal proportions. For third division boys, the guardians were almost equally divided in expressing the opinion that their work was (a) satisfactory or (b) mediocre or (c) unsatisfactory. On the whole, for all boys in the three division together the performance of slightly over 50% i.e. half of them roughly, was considered not satisfactory (mediocre or actually unsatisfactory).

As regards the reasons for unsatisfactory performance of the students at school, about one-sixth of such cases in each of the two groups of income per capita up to Rs. 50/- and Rs. 50/- + to Rs. 100/- were ascribed to bad health (Table 30). For the highest income group it was one-ninth of the total in that group. Poverty was mentioned as the reason in a little over one-eighth of the cases in the lowest income group, and for one-sixteenth of boys in the next higher group. As we shall see later, the indirect effects of poverty on students' performance is greater. Negligence of studies by the students and lack of adequate teaching or coaching facilities at school were equally emphasised in all the groups. These two factors and some allied reasons were stated to be responsible for unsatisfactory performance in about 44% of



cases in the two lower income groups noted, while in the highest income group the percentage rose to 60, the figures for negligence of studies being much higher for this group, than in the two other groups. No specific reasons were however given for as many as 27% of cases in the two lower income groups taken together and also for the highest group. The high percentage of negligence and of "no specific" reason, totalling nearly half the cases of unsatisfactory performance, suggest lack of adequate supervision by guardians. The reason for such failure may not be due to indifference of the guardian but to his lack of necessary equipment for the purpose or leisure or both. The answers given by guardians to the query as to how many hours' work was expected to be put in by the boy at home in addition to school work suggest that a good number of guardians do not have a proper idea of requirements in this respect (Table 31). The average number of hours expected to be put in works out as somewhat over five daily for all students. In a number of cases eight, ten and even twelve hours' work daily at home was stated to be proper. In some cases two to three hours' work was reported as adequate. As three hours' regular work ought to be sufficient in most cases, it would appear that guardians expected much harder work from the boys than was necessary. In these circumstances a fair amount of uncertainty is introduced as regards the significance of "negligence of studies" given in responses by guardians.

Mention has been made earlier that the guardians were asked to express their opinion how far courses of studies had been selected keeping in view the capability of the boy and his intended future profession. Details of responses have already been noted. An attempt is now made to analyse the data about subjects selected for study at school, and performance at the School Final Examination.



It is recognised that a student of engineering has to have a fair grasp of mathematics and its applications. Such a boy should, therefore, have done moderately well in mathematics in the School Final Examination. He should also take up this subject in the Pre-University stage. Further a study of Physics or Chemistry will be useful for a future course of studies in different branches of engineering such as Electrical Engineering and Chemical Engineering. It was found however that only 26% of the Science students in the Pre-University classes, who preferred Engineering as their future profession, had taken at school Additional Mathematics, and 18.5% had taken along with it either Physics and Chemistry or Mechanics. Another 9.7% had taken Physics and Chemistry but not Mathematics. As many as 41.9% had taken up any of the following subjects—English, History, World History a Classical Language, Civics, Economics and Hygiene. Only a little over half the boys had therefore selected their courses of study at school keeping in view their intended profession (Table 33). As regards capability, it was found that in the School Final Examination 71.3% of boys had scored over 50 per cent of marks in compulsory Mathematics. But only 39.2% of these had appeared in Additional Mathematics and barely 5% in Mechanics, while 20.7% had taken up Physics and Chemistry. Nearly half the boys (49.3%) who had taken up Additional Mathematics had scored 50% or more marks in that subject. In Mechanics the corresponding percentage was 72.7% but in Physics and Chemistry it was as low as 20.4% only (Table 34). It is clear from all these figures that two fifths of the boys who intend to try to secure admission to Engineering institutions had not taken up appropriate elective subjects in school. Also an appreciable proportion of those who have shown preference for this course had scored less than half the full marks in Mathematics. Stu-



dents who do not have a much better record in Mathematics have little or no chance of securing admission to Engineering institutions. The results in Physics and Chemistry may be due as much to poor preparation by students as to weakness in teaching arrangement of these subjects. No data to settle the point is however available from the present survey.

With regard to "Higher Services", the test applied in the survey has been the score in Mathematics and English. While proficiency in Mathematics may not always go hand in hand with a good score in other subjects, and while it may be possible for a bright boy to have a distaste for Mathematics, there is no doubt that the score in this subject furnishes a rough guide to the capability of the boy. In any case, proficiency either in Mathematics or in English, the language still ruling in Higher Services, serves to indicate the likelihood of success in competitive examinations for such Services. It is noted that 50% of such aspirants had done fairly well in Mathematics scoring 50% or more of full marks. But only 36.3% of the boys had scored 50% or more marks in English (Table 35). Here again it is clear that at least half the boys who desire to enter "Higher Services" have little chance to attain success in this respect.

For the legal profession, a good knowledge of English is essential as all the important law books used in India are in that language. But only 25%, i.e., exactly one-fourth of the boys attained the score of 50% or more in that subject (Table 36). For the teaching profession, a mastery of the medium of instruction in schools, which is mostly Bengali, is essential. Unfortunately, a bare 35.7% of those who intend to join this profession show a score of 50% and more in this subject (Table 37). These probes into capabilities suggest that a very large number of students entering colleges are not properly equipped for the professions or services they would like to join in future. An occasional



exception of a boy who did badly in examinations but succeeded very well in later life cannot disprove the general likelihood of frustration of a very large number of not exceptional boys. It is not suggested that the human material is bad. But there is lack of proper planning by the guardians, and also by the educational authorities.

Reference has been made to report by guardians of lack of adequate teaching arrangements in schools. A serious weakness of the educational organisation of secondary schools in this respect, is revealed by the arrangements needed for private tuition in some form or other, by as many as forty per cent. of the boys (Table 38). The percentage would have been much higher if all guardians had been able to afford to arrange for such tuition. The proportion of students who do not receive any such help is 67.9% for the income group of Rs. 50/- per capita or less, 55.2% for the next higher level of Rs. 50/- + to Rs. 100/- per capita and 38.5% for families with income above this level. The figures suggest that if funds had permitted as many as near about two-thirds of the boys would have had arrangements for private tuition. The reason for this state of affairs lies in the fact that schools expect the students to prepare their lessons almost entirely at home. No doubt, explanation or clarification of the subject-matter or the process is done in the class. But seeing to it that all the boys have understood the teaching, and arranging for help in school, without charging extra fees is probably not within the limited teaching done in most institutions. This comment is made not from any data collected in the present survey about the teaching actually done, but on the basis of experience of inspection of schools by one of the writers about two decades ago.² There have been some changes

² Reports of schools inspected by Prof. K.P. Chattopadhyay as Education Officer, Calcutta Corporation from 1925 to 1937.



since then ; there are more trained teachers. But the extremely low preference for the teaching profession among entrants to colleges which the present survey has shown and the poor equipment in their mother-tongue of those who have opted for it do not suggest that a good proportion of the better students seek employment in our schools as teachers. There are some good teachers no doubt, in most schools. But they must have an uphill task in attempting to cope with the problem of properly teaching the students with inadequate helpers and on salaries which do not yet permit adequate savings to ensure retirement in comfort even after thirty or thirty-five years' of approved service. It may further be noted that adequate arrangements for training of teachers or for supply of a sufficient number of qualified science teachers were not made before attempting expansion of secondary education.

While secondary schools send progress reports regularly each term, the colleges mostly do not have such an arrangement. It requires much greater interest and care on the part of the guardian to ascertain how the boy in his charge is progressing in his studies at college. It will be seen from the Tables that there are only 5 cases of "no response" from guardians out of 530 students included in the survey about their performance at school. But for progress of studies at college it is as high as 18.4% for boys who passed in the first division, 21.7% for boys in the second division and 28.1% for third division cases. Where responses are available almost all first division boys were reported to be working satisfactorily by guardians ; it was 64.3% for second division boys and 37.5% of those who got through in the third division (Tables 32a, 32b, 32c).

Two facts emerge from these data. Guardians have either not been able to or tried to assess progress of work at college in a fairly large number of cases. Also, the third



division boys were on the whole not doing well at college. It may be noted at this stage that 28% of those guardians whose academic qualifications were available to our surveyors were reported to be barely literate or had not passed the matriculation examination. As many as 40.4% were undergraduates while 13.7% were graduates. Post-Graduate or higher qualifications were possessed by 3.9% of guardians. Apart from these there were 5.7% of law graduates and 2.3% of engineering graduates. An equal proportion (2.3%) had junior engineering qualifications. Medical practitioners and those in medical service among guardians, were 3.4% only of the total of the returns. The academic qualification of 27.3% of guardians were not however stated (Table 40). In view of the incompleteness of the data it is not possible to say definitely what proportion of the guardians of boys have the capacity to assess the capability of their wards and plan accordingly for their future, or to judge their progress in studies, in the absence of reports from college. It is however evident that a substantial section of guardians require help from better equipped persons to form such judgement.

It may be noted here that apart from errors of judgement in planning, and of weakness in the educational organisation, there are other factors which hamper students in their studies. It was pointed out in the earlier survey of 1954 that only 43% of boys are able to buy essential text books, while 34% have to supplement purchase by borrowing books and another 11% depend on books lent by libraries and fellow students. Even so all these sources of supply proved inadequate for 12% of them. The absence of a quiet room for study is another handicap against which most boys have to contend. There may be a few exceptional students who can concentrate on their work in the midst of noise and chatter, when others are engaged in other



occupations in the same room. But for the great majority of students such an environment is too full of distraction. In the survey of 1954 it was found that 64% of boys read in rooms used also for other purposes. "If it is an outer room of the house, hut or flat' it serves as the room for visitors and also, generally as a bed room at night, besides being the common study of those who read in schools or colleges. An inner room when used as bed room and study is also used by the women folk of the house for various domestic duties". It was noted that undisturbed study was not possible in such rooms. The congestion of population in the city has not decreased and the available floor space per capita for residents has not increased since these lines were written ; and the difficulties of study in undisturbed conditions remain. A little relief has been given by the setting up of a few Day Hostels for students as envisaged by Dr. J. C. Ghosh, in the Foreword to the earlier report. But they serve only a very small fraction of the total student population.

The facts that have emerged from the present survey, taken in conjunction with the data available from the earlier survey, make it clear that there is (a) lack of amenities for study due to poverty, (b) lack of good teaching arrangements at school mainly due to unattractive service conditions of teachers (c) negligence or lack of interest in studies of students and (d) lack of proper planning by guardians of the courses of study, and intended future profession of their wards, keeping in view the performance of the boy at school and at the public examination. The State, the educational institutions, the guardians and also the students have to work together to remove these defects.

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TECHNICAL APPENDIX

The present sample survey was started with the object of collecting information regarding the extent of educational planning of male students, who read in the Pre-University class or the First-Year class of the Three-Year Degree Course of Calcutta colleges. It was considered appropriate to exclude those students who declare themselves as their own guardians, and as most of the students reading in the evening and morning sessions are likely to fall in this category, only the population of students reading in the day classes of the colleges considered was sampled. Further, due to the difficulty of contacting guardians living in distant areas, the final investigation was confined to only those students whose guardians or near relations live in Calcutta area (i.e. Calcutta postal zones, Belgharia, Garia and Howrah). However, it is believed that this last restriction is not serious and the conclusions of the survey can be generalised to the population of all the students considered, irrespective of whether they have their guardians living in or away from Calcutta.

In the preliminary stage of the survey, a 10% sample was taken from the population of all students reading in the Pre-University or First-Year degree classes of the Calcutta colleges (excluding Girls' colleges) in the day session. For this purpose the population was divided into four strata corresponding to the four classes: (A) Pre-University Arts¹, (B) Pre-University Science, (C) First-Year Degree Arts¹, (D) First-Year Degree Science. Then in each stratum, with the help of the list of colleges (Table A) and their reported roll-strengths, the students were serially arranged, and a separate systematic sample was taken by selecting every tenth student starting from a randomly selected initial point. In practice, the strictly systematic character of the sample could not be maintained, because the roll-strengths were in many cases wrongly reported, and in particular because halfway through the work one college had to be entirely left out, as it was found that it worked only in the evening. But such deviations, as occurred due to these, are believed to be



unimportant. The number of students selected at this stage came to be 885.

In the next stage, the selected students were identified in the college registers and from the college records certain preliminary items in their respective schedules were filled in. It was found (Table 1) that of the 885 selected students 669 were male students who read in the Pre-University and First-Year Degree classes of the colleges considered and have their guardians² leaving in Calcutta area. For these 669 students attempt was made to contact the guardians for collecting information regarding educational planning, and after complete filling and scrutiny, 530 schedules (Table 2) were finally accepted for analysis.

Before setting forth the derived tables, we here note one point. On the basis of a few tables certain statistical tests (χ^2 tests) would be applied later. For the validity of these tests, it is necessary to assume the randomness of the working sample. As the basic arrangement utilised for systematic sampling within each stratum was not subject to any periodicity, it is believed that under the present circumstances such assumptions would not be unrealistic.

¹ 'Arts' includes 'Commerce'

² 'Guardian' here includes near relations in a position to supply the types of information sought.

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TABLE-A

List of Colleges

1. Asutosh College
2. Bangabasi College
3. City College
4. Charuchandra College
5. Maharaja M. C. College
6. Maulana Azad College
7. Presidency College
8. Surendranath College
9. Sanskrit College
10. Seth Anandaram Jaipuria College
11. St. Pauls' College
12. St. Xaviers' College
13. Vidyasagar College
14. Dinabandhu Andrews' College
15. Gurudas College
16. Brahmananda Keshab Chandra College
17. Dum Dum Motijheel College
18. Vivekananda College
19. Vijaygarh Jyotish Rai College
20. Scottish Church College
21. City College (Commerce)

Number of students in the different classes

Pre-University		1st Year Degree		Total
Arts	Science	Arts	Science	
2891	4393	565	971	8820

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TABLE 1

Classification of schedules after preliminary filling

Students whose guardians live in Calcutta area.*	Students whose guardians live away from Calcutta area.			Students who declared themselves as guardians.	Students for whom guardians complete address could not be found in College records.	Rejected schedules†	Total
	Hostel Students.	Students living in Calcutta with some distant relation or family friend.	Students living with guardian away from Calcutta area.				
669 (75.59)	24 (2.71%)	4 (0.45%)	111 (12.54%)	2 (0.23%)	17 (1.92%)	58 (6.55%)	855 (100.00)

* Here 'guardian' includes near relations who are in a position to give informations relevant to the Survey.

† These include schedules corresponding to girl students and students who left the College.

Note :—Figures in parentheses indicate percentages.

TABLE 2

Classification of accepted schedules

Filled schedules finally accepted for analysis.	Schedules subsequently rejected because			Total
	Guardians not found at the address recorded.	Students gave up the recorded course.	Of other reasons.*	
530 (79.22%)	45 (6.73%)	17 (2.54%)	77 (11.51%)	669 (100.00%)

* These include cases where the students declared themselves as guardians, or guardians could not be contacted even after several attempts and a few cases where attempt could not be made for other difficulties.



TABLE 3

Distribution of students according to course of study

Course of study.	Pre-University		First-year Degree		Total
	Arts	Science	Arts	Science	
Number	166 (31.22%)	299 (56.42%)	24 (4.53%)	41 (7.73%)	530 (100.00%)

TABLE 4

Distribution of students within each course according to their results at the Public examination (School Final or Higher Secondary).

Division	Pre-University			First-year degree			Total
	Arts	Science	Total	Arts	Science	Total	
First	2 (1.20%)	28 (9.36%)	30 (6.45%)	0	8 (19.51%)	8 (12.31%)	38
Second	43 (25.90%)	162 (54.19%)	205 (44.09%)	9 (37.50%)	21 (51.22%)	30 (41.15%)	235
Third and Compartmental	121 (72.90%)	169 (36.45%)	290 (49.46%)	15 (62.50%)	12 (29.27%)	27 (41.54%)	257
Total	166 (100.00%)	299 (100.00%)	465 (100.00%)	24 (100.00%)	41 (100.00%)	65 (100.00%)	530

TABLE 4(a)

Percentages of students in different divisions as obtained in the Sample and in the Board examination.

Pre-University			First-year Degree		
Division	No. of students in the sample.	Percentage of Boy Students in the School Final Exam, 1960.	Division	No. of students in the sample	Percentage of Boy students in the H. S. Examination, 1960.
First	30 (6.45%)	2.29	First	8 (12.31%)	7.72
Second	205 (44.09%)	26.75	Second	30 (46.15%)	43.53
Third and compartmental	230 (49.46%)	70.96	Third and compartmental	27 (41.54%)	48.75
Total	465 (100.00%)	100.00	Total	65 (100.00%)	100.00

$$\chi^2 = 117.6949^{**} \text{ D.F.} = 2$$

$$\chi^2 = 2.6583 \text{ D.F.} = 2$$

For the Pre-University course the samples percentage differ significantly from the percentages of boy students passing the School Final Examination, 1960 in different divisions, there being a longer proportion of first and second division boys in the sample. This is however expected since many of the students passing in third division or compartmental do not continue their studies further.

In case of the Degree course the difference is insignificant. This may be due to the fact that after passing their Higher Secondary Examination many higher division boys take up technical and other courses and thus do not take up the general degree course.



TABLE 5(a)

Distribution of Students within each course according to the monthly per capita incomes of their families.

Course Monthly per income in Re.	Pre-University		First-year Degree		Total
	Arts	Science	Arts	Science	
0-30	44 (28.03%)	79 (27.72%)	3 (12.50%)	7 (17.95%)	133 (26.34%)
30-50	45 (28.66%)	84 (28.09%)	9 (37.50%)	8 (20.51%)	146 (28.91%)
50-75	34 (21.66%)	45 (15.79%)	3 (12.50%)	10 (25.64%)	92 (18.22%)
75-100	13 (8.28%)	36 (12.63%)	2 (8.33%)	0	51 (10.09%)
above 100	21 (13.37%)	41 (14.39%)	7 (29.17%)	14 (35.90%)	83 (16.44%)
Total	157 (100.00%)	285 (100.00%)	24 (100.00%)	39 (100.00%)	505* (100.05%)

* Per capita income figures were not available in 25 cases out of a total of 530

TABLE 5(b)

Students classified according to their mother tongue and per capita income in their families.

Monthly per capita income (in Re.)	Mother tongue of Student			Total
	Bengali	Hindi	Others.	
0-30	117 (26.65%)	13 (29.55%)	4 (17.40%)	134
30-50	135 (30.75%)	9 (20.45%)	2 (8.69%)	146
50-75	81 (18.45%)	6 (13.64%)	5 (21.74%)	92
75-100	40 (9.11%)	6 (13.64%)	5 (21.74%)	51
above 100	66 (15.04%)	10 (22.72%)	7 (30.43%)	83
Total	439 (100.00%)	44 (100.00%)	23 (100.00%)	506

N.B. Income figures were not available in case of 20 students speaking Bengali, 3 speaking Hindi and 1 speaking some other language.

TABLE 6

Classification of students according to their mother tongues.

Mother tongue		Frequency	Percentage
Bengali	...	459	86.60
Hindi	...	47	8.87
Others	...	24	4.53
Total	...	530	100.00



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TABLE 7

Numbers and percentages of students whose educational expenses are met wholly or partly by guardian for each income group

Monthly per capita income in Rs.	Percentage of students whose educational expenses are met wholly by guardian	Percentage of students whose educational expenses are met partly by guardian	Total
0-30	113 (84.96%)	20 (15.04%)	133 (100.00%)
30-50	138 (94.52%)	8 (5.48%)	146 (100.00%)
50-75	87 (94.57%)	5 (5.43%)	92 (100.00%)
75-100	50 (98.04%)	1 (1.96%)	51 (100.00%)
above 100	83 (100%)	0 (0%)	83 (100.00%)
Total	471 (93.27%)	34 (6.73%)	505 (100.00%)

$$\chi^2 = 18.2786^{**} \quad \text{d. f. 4}$$

As the value of χ^2 is significant we may conclude that the proportion of students whose educational expenses are met partly by their guardians differs significantly from income group to income group, it being lesser higher the income level of the group.



TABLE 8

Earners and Non-earners among students belonging to different income-groups

Monthly per capita income in Rs.	Earners	Non-earners	Total
0-50	17 (12.88%)	115 (87.12%)	132 (100.00%)
50-75	7 (4.83%)	138 (95.17%)	145 (100.00%)
75-100	0	92 (100.00%)	92 (100.00%)
above 100	0	51 (100.00%)	51 (100.00%)
above 100	2 (2.41%)	81 (97.59%)	83 (100.00%)
Total	26 (5.17%)	477 (94.83%)	503 (100.00%)

$$\chi^2 = 25.1250^{**} \quad d. f. = 4$$

The χ^2 being highly significant we conclude that the proportion of earning students differs significantly from group to group, it being higher towards the bottom of the income scale.

TABLE 9

Extent to which fee concession is enjoyed by students of different income-groups

Income (in Rs.)	Fee Concession enjoyed at			No fee Concession	Total
	School only	College only	School and college both		
0-50	70 (25.27%)	8 (2.89%)	13 (4.69%)	186 (67.15%)	277 (100.00%)
50-100	14 (9.79%)	1 (0.70%)	0	128 (89.51%)	143 (100.00%)
above 100	0	0	0	83	83
Total	84 (16.70%)	9 (1.79%)	13 (2.58%)	397 (78.93%)	503 (100.00%)



TABLE 10

Reports of guardians about the health of their wards

Income (in Rs.)	State of Health			Total
	Good	Mediocre	Sickly	
0-50	127 (45.52%)	107 (38.35%)	45 (16.13%)	279 (100.00%)
50-100	81 (57.04%)	44 (30.99%)	17 (11.97%)	142 (100.00%)
above 100	55 (66.27%)	25 (30.12%)	3 (3.61%)	83 (100.00%)
Total	263	176	65	504

$$\chi^2 = 16.1784^{**} \quad d. f. = 4$$

We conclude that the different income groups are not homogeneous as regards the states of health of the students.

TABLE 11

Extent to which students belonging to different income-groups participate in games*

Income (in Rs.)	Participants	Non-participants	Total
0-50	166 (59.50%)	113 (40.50%)	279 (100.00%)
50-100	96 (67.61%)	46 (32.39%)	142 (100.00%)
above 100	55 (66.27%)	28 (33.73%)	83 (100.00%)
Total	317	187	504

* 'games' means out door games including physical exercises



TABLE 12

Capacity of Students to undertake strenuous work in the opinion of their guardians.

Division obtained.	Capacity of strenuous work		No. response	Total
	Able	Unable		
First	31 (81.58%)	6 (15.79%)	1 (2.63%)	38 (100.00%)
Second	185 (78.72%)	50 (21.28%)	0	235 (100.00%)
Third & compartmental	219 (85.22%)	32 (12.45%)	6 (2.33%)	257 (100.00%)
Total	435 (82.08%)	88 (16.60%)	7 (1.32%)	530 (100.00%)

TABLE 13(a)

Students classified by occupations of fathers (deceased or living)

Father's occupation	Frequency	Percentage
Lower service (income less than Rs. 200.00)	75	18.03
Higher Service (income greater than Rs. 200.00)	149	35.83
Teaching	19	4.57
Medical	11	2.64
Engineering	13	3.12
Law	12	2.88
Business	121	29.09
Rent-receiving	5	1.20
Agriculture	11	2.64
Total	416	100.00

Note—No information about father's occupation was available in 89 cases out of a total of 505.



TABLE 13b

Fathers with 'Business' as their occupation classified by Mother tongue

Mother tongue	Number	Percentage*
Bengali	90	21.64%
Hindi	24	5.77%
Others	7	1.68%
Total	121	29.09%

*Expressed as percentage of the total number 416 (*Vide* Table 13(a))

TABLE 14

Classification of Arts students according to income group and profession intended for them by their guardians.

Profession	Monthly per capita income in Rs.			Total
	C—50	50—100	above 100	
Clerical Service	29 (29.00%)	10 (23.82%)	...	39 (21.67%)
Higher Service	30 (30.00%)	22 (52.38%)	8 (28.77%)	60 (33.33%)
Teaching	16 (16.00%)	3 (7.14%)	1 (3.57%)	20 (11.11%)
Business	5 (5.00%)	6 (14.28%)	15 (53.57%)	26 (14.44%)
Law	6 (6.00%)	4 (9.52%)	3 (10.71%)	13 (7.22%)
Others	7 (7.00%)	4 (9.52%)	...	11 (6.11%)
Any Service	6 (6.00%)	1 (2.38%)	...	7 (3.85%)
Undecided	1 (1.00%)	2 (4.76%)	1 (3.57%)	4 (2.23%)
Total	100 (100.00%)	42 (100.00%)	28 (100.00%)	180 (100.00%)

* N.B.—"Higher Service" includes Chartered Accountancy, posts of qualified Accountants, Administrative and allied services, commissioned posts in Armed Forces etc.

"Others" include Research work, non-commissioned posts in Armed Forces etc.



TABLE 15

Classification of Arts students according to division and profession intended for them by their guardians.

Division Profession	First	Second	Third & compartmental	Total
Clerical Service	...	10 (19.23%)	29 (21.48%)	39 (21.63%)
Higher Service	2	19 (36.54%)	41 (30.37%)	62 (32.80%)
Teaching	...	5 (18.46%)	16 (11.85%)	23 (12.17%)
Business	...	6 (11.54%)	22 (16.30%)	28 (14.81%)
Law	...	6 (11.54%)	8 (5.92%)	14 (7.41%)
Others	...	1 (1.92%)	11 (8.15%)	12 (6.35%)
Any Service	...	2 (3.85%)	5 (3.70%)	7 (3.70%)
Undecided	...	1 (1.92%)	3 (2.23%)	4 (2.13%)
Total	2 (100.00%)	52 (100.00%)	135 (100.00%)	189 (100.00%)



TABLE 16

Classification of Science students according to income-group and profession intended for them by their guardians

Monthly per capita income in Rs.	0-50	50-100	above 100	Total
Profession				
Clerical Service	4 (2.25%)	...	...	4 (1.23%)
Higher Service	3 (1.68%)	2 (2.20%)	1 (1.82%)	6 (1.85%)
Teaching	6 (3.38%)	3 (3.30%)	...	9 (2.78%)
Medical	13 (7.30%)	5 (5.49%)	5 (9.09%)	23 (7.10%)
Engineering	145 (81.46%)	75 (82.42%)	46 (83.64%)	266 (82.16%)
Business	1 (0.56%)	3 (3.30%)	...	4 (1.23%)
Others	2 (1.12%)	1 (1.09%)	3 (5.46%)	6 (1.85%)
Any Service	1 (0.56%)	...	...	1 (0.31%)
Undecided	3 (1.68%)	2 (2.20%)	...	5 (1.55%)
Total	178 (100.00%)	91 (100.00%)	55 (100.00%)	324 (100.00%)



TABLE 17

Classification of Science students according to division and profession intended for them by their guardians.

Profession	Division			Total
	First	Second	Third & compartmental	
Clerical Service	1 (2.78%)	2 (1.09%)	1 (0.83%)	4 (1.18%)
Higher Service	4 (11.11%)	1 (0.55%)	1 (0.83%)	6 (1.76%)
Teaching	2 (5.55%)	3 (1.64%)	5 (4.12%)	10 (2.94%)
Medical	2 (5.55%)	12 (6.56%)	11 (9.06%)	25 (7.35%)
Engineering	23 (63.89%)	158 (86.24%)	96 (79.34%)	277 (81.47%)
Business	...	1 (0.55%)	3 (2.48%)	4 (1.18%)
Others	3 (8.34%)	2 (1.09%)	2 (1.65%)	7 (2.06%)
Any Service	...	...	2 (1.65%)	1 (0.29%)
Undecided	1 (2.78%)	4 (2.18%)	1 (0.83%)	6 (1.77%)
Total	36 (100.00%)	183 (100.00%)	121 (100.00%)	340 (100.00%)



TABLE 18

Classification of students within each income group according to whether any consideration has been given by their guardians to the intended profession in selecting the present course.

Monthly per capita income in Rs.	Arts			Science		
	Consideration	No Consideration	Total	Consideration	No Consideration	Total
0-50	90 (57.32%)	9 (47.37%)	99 (56.25%)	180 (57.33%)	2 (33.33%)	182 (56.88%)
50-100	43 (27.39%)	7 (86.84%)	50 (28.41%)	82 (26.11%)	4 (66.67%)	86 (26.87%)
above 100	24 (15.29%)	3 (15.79%)	27 (15.34%)	52 (16.56%)	0	52 (16.25%)
Total	157 (100.00%)	19 (100.00%)	176 (100.00%)	314 (100.00%)	6 (100.00%)	320 (100.00%)

TABLE 19

Classification of students passing in different divisions according to whether any consideration has been given by their guardians to the intended profession in selecting the present course.

Division of passing the Board Examination.	Arts			Science		
	Consideration	No Consideration	Total	Consideration	No Consideration	Total
First	2 (100.00%)	0 ...	2 (100.00%)	35 (100.00%)	0	35 (100.00%)
Second	46 (90.20%)	5 (9.80%)	51 (100.00%)	176 (98.32%)	3 (1.68%)	179 (100.00%)
Third and compartmental	116 (88.55%)	15 (11.45%)	131 (100.00%)	116 (96.67%)	4 (3.33%)	120 (100.00%)
Total	164 (89.13%)	20 (10.87%)	184 (100.00%)	327 (97.90%)	7 (2.10%)	334 (100.00%)



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TABLE 21

Preference for some alternative course among students of different income groups.

Income	Arts			Science		
	No alternative course preferred	Some alternative course preferred but not taken	Total	No alternative course preferred	Some alternative course preferred but not taken	Total
0-50	79 (79.00%)	21 (21.00%)	100 (100.00%)	167 (93.82%)	11 (6.18%)	178 (100.00%)
50-100	37 (59.51%)	16 (30.19%)	53 (100.00%)	84 (92.30%)	7 (7.70%)	91 (100.00%)
above 100	24 (88.89%)	3 (11.11%)	27 (100.00%)	50 (90.91%)	5 (9.09%)	55 (100.00%)
Total	140 (77.78%)	40 (22.22%)	180 (100.00%)	301 (92.90%)	23 (7.10%)	324 (100.00%)

TABLE 22
Preference for some alternative course among students passing their Board Examination in different divisions

Division	Arts			Science		
	No alternative course preferred	Some alternative course preferred but not taken	Total	No alternative course preferred	Some alternative course preferred but not taken	Total
First	2 (100.00%)	0	2 (100.00%)	34 (97.14%)	1 (2.86%)	35 (100.00%)
Second	42 (84.00%)	8 (16.00%)	50 (100.00%)	175 (95.63%)	8 (4.37%)	183 (100.00%)
Third & compart- mental	103 (75.73%)	33 (24.27%)	136 (100.00%)	108 (89.26%)	13 (10.74%)	121 (100.00%)
Total	147 (78.19%)	41 (21.81%)	188 (100.00%)	317 (93.51%)	22 (6.49%)	339 (100.00%)



TABLE 23

Reasons for not taking the preferred course for different income groups.

Branch	Arts					Sciences				
	Financial difficulties	Student's deficiency in particular subject	Could not get admission	Other reasons	Total	Financial difficulties	Student's deficiency in particular subject	Could not get admission	Other reasons	Total
Monthly per capita income in Rs.										
0-50	6 (28.57%)	5 (23.81%)	9 (42.86%)	1 (4.76%)	21 (100.00%)	1 (9.09%)	3 (27.27%)	5 (45.45%)	2 (18.19%)	11 (100.00%)
50-100	1 (6.25%)	6 (37.50%)	5 (31.25%)	4 (25.00%)	16 (100.00%)	1 (6.67%)	0	5 (33.33%)	0	6 (100.00%)
above 100	1 (25.00%)	2 (50.00%)	0	1 (25.00%)	4 (100.00%)	0	2 (40.00%)	2 (40.00%)	1 (20.00%)	6 (100.00%)
Total	8 (19.51%)	13 (31.71%)	14 (31.15%)	6 (14.63%)	41 (100.00%)	2 (9.09%)	5 (22.73%)	12 (54.54%)	3 (13.64%)	23 (100.00%)

TABLE 24

Reasons for not taking the preferred course for different division groups

Branch	Arts						Science					
Reasons	Financial difficulty	Student's deficiency in particular subject	Could not get admission	Other reasons	Total	Financial difficulty	Student's deficiency in particular subject	Could not get admission	Other reasons	Total		
First	0 (0.00%)	0 (0.00%)	0 (0.00%)	0 (0.00%)	0 (0.00%)	1 (100.00%)	0 (0.00%)	0 (0.00%)	0 (0.00%)	1 (100.00%)		
Second	3 (37.50%)	2 (25.00%)	2 (25.00%)	1 (12.50%)	8 (100.00%)	0 (0.00%)	3 (37.50%)	4 (50.00%)	1 (12.50%)	8 (100.00%)		
Third & compartmental	5 (15.15%)	11 (33.33%)	12 (36.37%)	5 (15.15%)	33 (100.00%)	1 (7.69%)	2 (15.38%)	8 (61.55%)	2 (15.38%)	13 (100.00%)		
Total	8 (19.51%)	13 (31.71%)	14 (34.15%)	6 (14.63%)	41 (100.00%)	2 (9.09%)	5 (22.73%)	12 (54.54%)	3 (13.64%)	22 (100.00%)		



TABLE 25

Reasons for selection of the intended profession according to income-groups

Reasons Monthly per capita income in Rs.	Considerations of future pro- spect	Considerations of the capabilities of student and likings of student/guardian	Considerations of prospect, capabili- ties and likings	No specific reasons	Other reasons	Total
0-50	183 (67.52%)	51 (18.82%)	10 (3.69%)	12 (4.43%)	15 (5.54%)	271 (100.00%)
50-100	83 (59.29%)	36 (25.71%)	7 (5.00%)	1 (0.71%)	13 (9.29%)	140 (100.00%)
above 100	45 (55.55%)	21 (25.93%)	6 (7.41%)	0	9 (11.11%)	81 (100.00%)
Total	311 (63.22%)	108 (21.95%)	23 (4.67%)	13 (2.64%)	37 (7.52%)	492 (100.00%)

TABLE 26
Reasons for Selection of the intended profession according to division-groups

Reasons	Considerations of future prospect	Considerations of the capabilities of student and likings of student and/or guardian	Considerations of prospect, capabilities and likings	No specific reasons	Other Reasons	Total
Division of passing the Board Exam.						
First	24 (63.16%)	8 (21.05%)	1 (10.53%)	1 (2.63%)	1 (2.63%)	38 (100.00%)
Second	150 (65.21%)	48 (20.87%)	16 (6.96%)	4 (1.74%)	12 (5.22%)	230 (100.00%)
Third and compartmental	140 (59.37%)	67 (28.90%)	6 (2.39%)	10 (3.99%)	26 (10.36%)	251 (100.00%)
Total	328 (63.45%)	116 (22.79%)	26 (5.11%)	15 (2.95%)	29 (5.70%)	507 (100.00%)

TABLE 27

Number and percentage of guardians who have decided upon the further course of study in view of the intended profession of their wards according to income groups.

Course	Arts				Science			
	Decided upon further study	Decided to give up study	Undecided	Total	Decided for further study	Decided to give up study	Undecided	Total
Monthly Income per capita								
0-50	90 (89.11%)	1 (0.99%)	10 (9.90%)	101 (100.00)	163 (91.57%)	1 (0.57%)	14 (7.86%)	178 (100.00%)
50-100	21 (80.77%)	1 (3.85%)	4 (15.38%)	26 (100.00%)	81 (92.05%)	0	7 (7.95%)	88 (100.00%)
above 100	49 (90.74%)	0	5 (9.26%)	54 (100.00%)	54 (98.10%)	0	4 (6.90%)	58 (100.00%)
Total	160 (88.40%)	2 (1.10%)	19 (10.50%)	181 (100.00%)	298 (91.98%)	1 (0.30%)	25 (7.72%)	324 (100.00%)

TABLE 28

Number and percentage of guardians who have decided upon the further course of study in view of the intended profession according to division-groups

Branch	Arts				Science			
	Decided upon further studies	Decided to give up studies	Undecided	Total	Decided upon further studies	Decided to give up studies	Undecided	Total
First	2 (100.00%)	0	0	2 (100.00%)	36 (85.71%)	1 (2.39%)	5 (11.9%)	42 (100.00%)
Second	48 (92.31%)	0	4 (7.69%)	52 (100.00%)	169 (92.86%)	0	13 (7.14%)	182 (100.00%)
Third & com- partmental	119 (87.50%)	2 (1.47%)	15 (11.03%)	136 (100.00%)	107 (92.24%)	0	9 (7.76%)	116 (100.00%)
Total	169 (88.95%)	2 (1.05%)	19 (10.00%)	190 (100.00%)	312 (91.76%)	1 (0.3%)	27 (7.94%)	347 (100.00%)

TABLE 29

Guardian's view on the school performance of students passing the Board Examination in different divisions

Guardian's view Division	Satisfactory	Mediocre	Unsatisfactory	No response	Total
First	34 (59.48%)	1 (2.63%)	3 (7.69%)	0	35 (100.00%)
Second	143 (60.85%)	42 (17.87%)	47 (20.00%)	3 (1.26%)	235 (100.00%)
Third and Compartmental	86 (33.47%)	80 (31.12%)	89 (34.68%)	2 (0.78%)	257 (100.00%)
Total	263 (49.62%)	123 (23.21%)	139 (26.23%)	5 (0.94%)	53 (100.00%)

$$\chi^2 = 20.776^{**} \quad d.f = 6$$

The highly significant χ^2 shows that guardian's assessment of the school performance of the student is associated with the result of the student in the Board examination.

TABLE 30

Guardian's reasons for not satisfactory* performance of the student at school
(Primary classification income-wise)

Monthly per capita income in Rs.	Reasons for not satisfactory* performance					Total
	Bad health	Poverty	Negligence of studies	Want of good school and want of good coaching in school.	Other § reasons	
0-50	23 (17.55%)	18 (13.74%)	21 (16.03%)	24 (18.32%)	14 (10.69%)	131 (100.00%)
50-100	13 (16.88%)	5 (6.43%)	11 (14.29%)	12 (15.58%)	11 (14.29%)	77 (100.00%)
above 100	5 (11.63%)	0	11 (25.58%)	11 (25.58%)	4 (9.30%)	43 (100.00%)
Total	41 (16.33%)	23 (9.16%)	43 (17.13%)	47 (18.73%)	29 (11.55%)	251 (100.00%)

* 'Not satisfactory' includes both 'unsatisfactory' and 'mediocre' performance.

§ 'Other reasons' include :

- (1) Domestic troubles e.g. death or serious illness of some member of the family, change of residence, school, etc.
- (2) Lack of time (for private candidates).
- (3) Lack of intelligence, etc.

TABLE 31

Average and extreme values of the number of hours a day a student should study at home in the opinion of the guardian

Branch	Pre-University Arts			Pre-University Science			1st-year Arts			1st-year Science		
	Average	Maximum	Minimum	Average	Maximum	Minimum	Average	Maximum	Minimum	Average	Maximum	Minimum
Hours												
Division												
First	5.5 (2)	6	5	6.2 (28)	10	3				4.4 (8)	6	2
Second	5.0 (42)	8	2	5.8 (161)	10	2	4.8 (9)	8	4	4.9 (21)	8	2
Third & com- partments	5.3 (115)	6	3	5.7 (107)	12	2	5.2 (15)	7	3	4.8 (12)	6	3
Over-all figures	5.2 (159)	8	2	5.8 (296)	12	2	5.0 (24)	8	3	4.7 (41)	8	2

Over-all figures

Division	Average	Minimum	Maximum
First	5.8 (38)	2	10
Second	5.5 (233)	2	10
Third	5.4 (249)	2	12

N. B. Figures in parentheses indicate the No. of observations on which the average is based.

TABLE 32 (a)

Classification of first division students according to their guardians' views about their school performance and progress in college.

	Guardian's view about school performance				Total
	Satisfactory	Mediocre	Unsatisfactory	No response	
Satisfactory	29 (76.32%)	1 (2.63%)	0	0	30 (78.95%)
Unsatisfactory	1 (2.63%)	0	0	0	1 (2.63%)
No response	4 (10.53%)	0	3 (7.89%)	0	7 (18.42%)
Total	34 (89.48%)	1 (2.63%)	3 (7.89%)	0	38 (100.00%)

Guardian's view about
progress in college

TABLE 32 (b)

Classification of second division students according to their guardians' views on their school performance and progress in college

Guardian's view on progress in college	Guardian's view on school performance			
	Satisfactory	Mediocre	Unsatisfactory	No response
Satisfactory	104 (44.26%)	22 (9.36%)	25 (10.64%)	0
Unsatisfactory	17 (7.23%)	8 (3.40%)	7 (2.95%)	1 (0.43%)
No response	22 (9.36%)	12 (5.11%)	15 (6.38%)	2 (0.85%)
Total	143 (60.86%)	42 (17.87%)	47 (20.00%)	3 (1.23%)
				151 (64.26%)
				33 (14.04%)
				51 (21.70%)
				235 (100.00%)

TABLE 32 (c)

Classification of third division and compartmental students according to their guardians' views about their school performance and progress in college

Guardian's view about school performance		Guardian's view about progress in college			
		Satisfactory	Mediocre	Unsatisfactory	No response
Guardian's view about progress in college	Satisfactory	66 (25.69%)	41 (15.91%)	41 (15.91%)	0
	Unsatisfactory	4 (1.56%)	23 (8.95%)	12 (4.67%)	0
	No response	16 (6.23%)	16 (6.23%)	36 (14.86%)	2 (0.78%)
	Total	86 (33.47%)	80 (31.09%)	89 (35.44%)	2 (0.78%)
Total		148 (57.57%)	39 (15.18%)	70 (28.12%)	257 (100.00%)

TABLE 33
Elective subjects taken by Pre-University science students who have preferred Engineering as the intended profession

Subjects taken	Additional Mathematics	Physics & Chemistry	Mechanics	Add. Math. and Physics & Chemistry	Add. Mathematics and Mechanics	Physics & Chemistry and Mechanics	Science	Others*	Total
No. of Students	59	22	1	31	11	0	8	95	227
Percentage	(25.99%)	(9.69%)	(0.004%)	(13.66%)	(4.85%)		(3.96%)	(41.85%)	(100.00%)

Note : 1. Information about elective subjects taken was not available in 17 cases out of a total of 244 and the percentages have been calculated with respect to the 227 respondents.

* Implies any of the subjects—Elements of English History, Classical language, Elements of Civics and Economics, Hygiene etc.

TABLE 34

Distribution of scores obtained by Pre-University science students who have preferred Engineering as the intended profession in Mathematics (compulsory and Additional), Mechanics, Physics and Chemistry.

Subjects Score percent	Mathematics (compulsory)	Mathematics (Additional)	Mechanics	Physics and chemistry
30-40	16 (6.75%)	28 (30.31%)	1 (9.09%)	18 (36.73%)
40-50	52 (21.91%)	19 (20.43%)	2 (18.18%)	21 (42.86%)
50-60	42 (17.72%)	24 (25.61%)	2 (18.18%)	8 (16.33%)
60-75	68 (24.89%)	16 (17.20%)	2 (18.18%)	2 (4.08%)
above 75	59 (28.70%)	6 (6.45%)	4 (35.37%)	0
Total	237 (100.00%)	93 (100.00%)	11 (100.00%)	49 (100.00%)

TABLE 35

Distribution of scores obtained by Pre-University students who have preferred 'Higher Service' as their intended profession in Mathematics (compulsory) and English.

Per-cent Score Subject	30-40	40-50	50-60	60-75	above 75	Total
Mathematics (compulsory)	18 (33.33%)	9 (16.67%)	15 (27.78%)	7 (12.96%)	5 (9.26%)	54 (100.00%)
English	14 (25.45%)	21 (38.18%)	14 (25.45%)	6 (10.92%)	0	55 (100.00%)

Note : Percentages have been computed with respect to the 54 respondents in Mathematics (marksheets being not available in the case of 6 students) and 55 respondents in English (marksheets being not available in the case of 5 students).



TABLE 36

Distribution of scores in English obtained by students who have preferred 'Law' as their intended profession.

Score per cent	Frequency	Percentage
30—40	4	33.33
40—50	5	41.67
50—60	1	8.33
60—75	2	16.67
above 75	0	...
Total	12	100.00

TABLE 37

Distribution of scores in Bengali obtained by students who have preferred 'Teaching' as their intended profession.

Score per cent.	Frequency	Percentage
30—40	7	25.00
40—50	11	39.29
50—60	10	35.71
60—75	0	...
above 75	0	...
Total	28	100.00

TABLE 38

Classification of students according to type of tuition help received and income-group

Monthly per capita income in Rs.	Type of tuition help received								Total	
	Private tutor	Member of family	Any other person	Tutorial college	No help	Private tutor and member of family	Private tutor and any other person	Member of family and any other person		Member of family, any other person and tutorial college
0-50	27 (9.75%)	35 (12.64%)	16 (5.78%)	9 (3.25%)	188 (67.86%)	1 (0.36%)	1 (0.36%)	0 ...	0 ...	277 (100.00%)
50-100	29 (20.28%)	22 (15.38%)	5 (3.57%)	4 (2.80%)	79 (56.24%)	2 (1.40%)	0 ...	1 (0.70%)	1 (0.70%)	143 (100.00%)
above 100	36 (43.39%)	8 (9.64%)	3 (3.61%)	0 ...	32 (38.55%)	3 (3.61%)	1 (1.20%)	0 ...	0 ...	83 (100.00%)
Total	92 (15.29%)	65 (12.92%)	24 (4.77%)	13 (2.58%)	299 (59.45%)	6 (1.19%)	2 (0.40%)	1 (0.20%)	1 (0.20%)	503 (100.00%)

$$\chi^2 = 67.655^{**} \quad d.f. = 16$$

The test shows that the different groups are not homogeneous. In fact, the proportion of students receiving no help is smaller higher the income.

TABLE 39

Classification of students according to type of tuition help received and division group

Type of tuition help received

Type of help Division of passing the Board Exam.	Private tutor	Member of family	Any other person	Tutorial College	No help	Private tutor and Member of family	Private tutor and any other person	Member of family and any other person	Member of family, any other per- son and tutorial College	Total
First	5 (13.16%)	5 (13.16%)	1 (2.63%)	1 (2.63%)	24 (63.16%)	1 (2.63%)	1 (2.63%)	0 ...	0 ...	38 (100.00%)
Second	46 (19.57%)	35 (14.89%)	10 (4.26%)	4 (1.70%)	136 (57.86%)	1 (0.43%)	1 (0.43%)	1 (0.43%)	1 (0.43%)	235 (100.00%)
Third and com- partmental	43 (16.73%)	28 (10.89%)	13 (5.06%)	9 (3.50%)	157 (61.09%)	4 (1.56%)	1 (0.39%)	1 (0.39%)	1 (0.39%)	257 (100.00%)
Total	94 (17.74%)	68 (12.83%)	24 (4.93%)	14 (2.64%)	317 (59.80%)	6 (1.13%)	3 (0.57%)	2 (0.38%)	2 (0.39%)	530 (100.00%)

TABLE 40

Academic qualifications of fathers

Father's academic qualifications	Frequency	Percentage
Just literate or illiterate	17	4.40
Under-Matriculate	91	23.58
Under graduate	156	40.41
Graduate	53	13.73
Post-Graduate and higher qualification	15	3.89
Law (Non-graduate)	1	0.26
Law (Graduate)	22	5.70
Engineering (Graduate)	9	2.33
Engineering (Non-graduate)	9	2.33
Medical (Graduate)	5	1.30
Medical (Non-graduate)	8	2.07
Total	396	100.00

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